UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,994	02/02/2001	Kevin Eugene Dombkowski	LUC-300/Dombkowski 7-4	7453

47382   7590   05/01/2008
PATTI , HEWITT & AREZINA LLC
ONE NORTH LASALLE STREET
44TH FLOOR
CHICAGO, IL 60602

EXAMINER
VAN HANDEL, MICHAEL P

ART UNIT	PAPER NUMBER
2623	

MAIL DATE	DELIVERY MODE
05/01/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	09/775,994	DOMBKOWSKI ET AL.
	Examiner	Art Unit
	MICHAEL VAN HANDEL	2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *11 February 2008*.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-12,21-36 and 38-40* is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-12, 21-36, 38-40* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a) ☐ All   b) ☐ Some * c) ☐ None of:
       1. ☐ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This action is responsive to an Amendment filed 2/11/2008. Claims **1-12, 21-36, 38-40**

are pending. Claims **11, 38** are amended. Claims **13-20, 37** are canceled. Claims **39, 40** are

new. The examiner hereby withdraws the objection to claim **38** in light of the amendment. The

examiner hereby further withdraws the rejection of claim **11** under 35 USC 112, second

paragraph in light of the amendment.

Response to Arguments

1.   Applicant's arguments regarding claims **1, 21,** and **28**, filed 2/11/2008, have been fully

considered, but they are not persuasive.

        Regarding claims **1, 21,** and **28**, the applicant argues that Gummalla et al. does not

disclose video signals as pulse code modulated data without packet headers. The examiner

respectfully disagrees. Gummalla et al. discloses transmitting data in a voice channel as raw data

without any headers (p. 3, paragraph 54). Gummalla et al. further discloses that the invention is

not limited to voice, but can be used for any type of data that is deterministic (i.e., a constant bit

rate)(p. 2, paragraph 35). Gummalla et al. further incorporates Sala et al. by reference, stating

that the cable modem scheduler used in the invention is that disclosed by Sala et al. Sala et al.

discloses a system and method for scheduling transmissions for a plurality of services (Abstract).

The services include telephony and video conferencing (p. 3, paragraph 43). The examiner notes

that video conferencing requires both upstream and downstream video communications. As

noted by the applicant, constant bit rate refers to video or audio encoding where the bit rate does

not fluctuate. This is consistent with Sala et al, which discloses that bandwidth is requested and

allocated to services based on their priority, so that a bit rate may be maintained. Each cable

modem contains a local scheduler that sends requests for bandwidth. Upon receipt of a grant

from the headend, the local scheduler selects packets to be transmitted to best serve the needs of

the services associated with the cable modem (p. 2, paragraph 22). The applicant further argues

that packet headers are necessary for routing packets in Sala et al.; however, the examiner

respectfully disagrees. None of the passages cited by the applicant require that headers be used

for routing packets. The fact that Sala et al. discloses sending IP data packets, control messages

in MPEG format, etc. in the downstream channels does not mean that videoconferencing data

have packet headers. Furthermore, as noted, Gummalla et al. discloses transmitting raw voice

data without packet headers and that the invention is not limited to voice, but can be any type of

data requiring a constant bit rate (p. 2, paragraph 35).

In response to applicant's argument that the references fail to show certain features of

applicant's invention, it is noted that the features upon which applicant relies (i.e., that the

applicants' claim 1 is not limited to video or audio encoding where the bit rate used does not

fluctuate and is not limited to a constant bit rate source with ON and OFF periods) are not recited

in the rejected claim(s). Although the claims are interpreted in light of the specification,

limitations from the specification are not read into the claims. See *In re Van Geuns*, 988

F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

2.   Claims **1-12** and **21-36** are rejected under 35 U.S.C. 102(e) as being anticipated by

Gummalla et al. in view of Sala et al., which is incorporated in Gummalla et al. by reference

(Gummalla et al. p. 1, paragraph 10).

Referring to claims **1**, **21**, and **28**, Gummalla et al. discloses a method/apparatus

comprising the steps of:

-       sending one or more upstream signals as pulse code modulated data without

        packet headers (Gummalla et al. p. 3, 4, paragraph 54) using an upstream cable

        protocol (using a CMTS)(Gummalla et al. p. 1, paragraph 18 & p. 2, paragraph

        40), wherein at least one of the one or more upstream signals is a video signal

        (Gummalla et al. p. 2, paragraph 35 & Sala et al. p. 2, paragraph 23 & p. 3,

        paragraphs 41, 43);

-       sending one or more downstream signals as pulse code modulated data without

        packet headers, wherein at least one of the downstream signals is a video signal

        (Gummalla et al. p. 3, 4, paragraph 54 & Sala et al. p. 2, paragraphs 23, 37 & p. 3,

        paragraph 43) using a downstream cable protocol (using a CMTS)(Gummalla et

        al. p. 1, paragraph 18 & p. 2, paragraph 40); and

-          enclosing the one or more downstream signals as the pulse code modulated data

without application-level packet headers in a Motion Pictures Experts Group

(MPEG) transport (Sala et al. p. 2, paragraph 37 & p. 3, paragraph 43).

Further referring to claim **28**, Gummalla et al. discloses a sampler (CM scheduler 114) that

yields PCM data (i.e. burst) and a transport device (burst multiplexer 116) that transports

downstream signals (CMTS 102)(Sala et al. Fig. 1).

Referring to claims **2** and **29**, Gummalla et al. discloses the method/apparatus of claims 1

and 28, respectively, wherein the upstream protocol is Data-Over-Cable System Interface

Specification (DOCSIS) (Gummalla et al. p. 3, paragraphs 46, 47 & p. 4, paragraph 61)(Sala et

al. p. 4, paragraph 55).

Referring to claims **3** and **30**, Gummalla et al. discloses the method/apparatus of claims 1 and 28,

respectively, wherein the step of sending one or more upstream signals comprises mapping one

or more pulse code modulated samples of the one or more signals taken at a sampling interval to

an allocation of mini-slots in the upstream protocol (Gummalla et al. p. 4, paragraphs 61-65 & p.

5, paragraphs 73, 74, 76, 80-56)(Sala et al. p. 2, paragraph 37).

Referring to claims **4** and **31**, Gummalla et al. discloses the method/apparatus of claims 3

and 30, respectively, wherein the sampling interval is 125 microseconds (Gummalla et al. p. 2,

paragraph 40) and the mini-slots occur at 6.25 microsecond intervals (it is inherent that mini-

slots occur every 6.25 microseconds according to the DOCSIS standard)(Gummalla et al. p. 2,

paragraph 37 & p. 4, paragraphs 61-65).

Referring to claims **5** and **32**, Gummalla et al. discloses method/apparatus of claims 1 and

28, respectively, further comprising the step of multiplexing two or more signals in one mini-slot

in the upstream protocol (bursts are assigned or allocated by mini-slots and burst multiplexer 116 multiplexes packets from two or more signals into a burst)(Sala et al. p. 2, paragraph 37; p. 3, paragraph 44; & Fig. 1).

Referring to claims **6** and **22**, Gummalla et al. discloses the method of claims 1 and 21, respectively, wherein the downstream protocol is Data-Over-Cable Interface Specification (DOCSIS)(Gummalla et al. p. 2, paragraph 39 & p. 3, paragraph 46).

Referring to claims **7** and **23**, Gummalla et al. discloses the method of claims 1 and 21, respectively, wherein the step of sending one or more downstream signals comprises mapping one or more pulse code modulated samples of the one or more signals taken at a sampling interval to a Motion Pictures Experts Group (MPEG) transport layer (Sala et al. p. 2, paragraphs 37-39 & Fig. 1).

Referring to claims **8** and **24**, Gummalla et al. discloses the method of claims 1 and 21, respectively, wherein the step of sending one or more downstream signals comprises multiplexing multiple signals within a single Motion Pictures Experts Group (MPEG) packet identifier 100 (MPEG packets carried over the downstream inherently have audio, video, and voice data multiplexed into a downstream channel in which the MPEG packets share a common packet identifier according to the MPEG standard)(Sala et al. p. 2, paragraphs 37-39 & Fig. 1).

Referring to claims **9** and **36**, Gummalla et al. discloses the method/apparatus of claims 1 and 28, respectively, wherein the method is performed in a cable system having a media terminal adapter (MTA)(cable modem 104)(Gummalla et al. p. 2, paragraph 38 & Fig. 1), such that subscriber signaling functionality is reduced in the MTA (it is inherent that the associated media terminal adaptor would have decreased hardware functionality by virtue of transmitting the data

without headers, thereby obtaining significant bandwidth savings)(Gummalla et al. p. 3,

paragraphs 51-54).

Referring to claims **10**, **25**, and **33**, Gummalla et al. discloses the method/apparatus of

claims 1, 21, and 28, respectively, wherein the method reduces throughput delay and jitter for

signals, thereby improving signal quality over existing transport methods (Gummalla et al. p. 5,

paragraph 93).

Referring to claims **11**, **26**, and **34**, Gummalla et al. discloses the method/apparatus of

claims 1, 21, and 28, respectively, wherein at least one of the one or more upstream signals and

the one or more downstream signals is a voice signal (the data exchanged between CMTS and

cable modems includes text, video, audio, voice, graphics, other media, or a combination

thereof)(Gummalla et al. p. 4, paragraphs 56 & Fig. 1)(Sala et al. p. 3, paragraph 43 & p. 4,

paragraph 53).

Referring to claims **12**, **27**, and **35**, Gummalla et al. discloses the method/apparatus of

claims 1, 21, and 28, respectively, wherein at least one of the one or more upstream signals and

the one or more downstream signals is the video signal (the data exchanged between CMTS and

cable modems includes text, video, audio, voice, graphics, other media, or a combination

thereof)(Sala et al. p. 3, paragraph 43 & p. 4, paragraph 53).

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claim **38** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gummalla et al. in view of Limb et al.

Referring to claim **38**, Gummalla et al. discloses the method of claim 1. Gummalla et al. does not specifically disclose that the step of sending one or more upstream signals further comprises a step of sending the one or more upstream signals as PCM data in a form that allows transfer to PSTN without transcoding the pulse code modulated data of the one or more upstream signals. Limb et al. discloses a step of sending one or more upstream signals that comprises sending the one or more upstream signals as PCM data in a form that allows transfer to PSTN without transcoding the pulse code modulated data of the one or more upstream signals (col. 3, l. 55-67; col. 4, l. 1-36; & Fig. 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gummalla et al. with the teaching of Limb et al., so as to facilitate communication between near end data devices (i.e., HFC network and far end PSTN 150) by just routing the PCM data using a based network router.

3.   Claims **39**, **40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gummalla et al. in view of Sala et al.

Referring to claim **39**, Gummalla et al. and Sala et al. disclose the method of claim 1. Gummalla et al. and Sala et al. further teach the use of a burst multiplexer 114 for multiplexing upstream communications (Gummalla et al. p. 3, paragraph 44 & Fig. 1). Gummalla et al. and Sala et al. do not specifically teach that the upstream cable protocol utilizes Frequency Division

Multiple Access burst modulation format; however, the examiner takes Official Notice that it was notoriously well-known to use a Frequency Division Multiple Access modulation format in a cable environment at the time the invention was made. It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify Gummalla et al. and Sala et al. to utilize a Frequency Division Multiple Access modulation format, such as that taught by the prior art in order to efficiently divide bandwidth among client devices.

Referring to claim **40**, Gummalla et al. and Sala et al. disclose the method of claim 1. Gummalla et al. and Sala et al. further teach the use of a burst multiplexer 114 for multiplexing upstream communications (Gummalla et al. p. 3, paragraph 44 & Fig. 1). Gummalla et al. and Sala et al. do not specifically teach that the upstream cable protocol utilizes Time Division Multiple Access burst modulation format; however, the examiner takes Official Notice that it was notoriously well-known to use a Time Division Multiple Access modulation format in a cable environment at the time the invention was made. It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify Gummalla et al. and Sala et al. to utilize a Time Division Multiple Access modulation format, such as that taught by the prior art in order to efficiently divide bandwidth among client devices.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MICHAEL VAN HANDEL whose telephone number is

(571)272-5968. The examiner can normally be reached on 8:00am-5:30pm Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chris Kelley/

Supervisory Patent Examiner, Art Unit
2623

MVH